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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,017	03/13/2001	Otward M. Mueller		1566

7590 04/13/2004  
Otward Mueller  
96 Sweet Rd.  
Ballston Lake, NY 12019-1804

EXAMINER

TOATLEY, GREGORY J

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 04/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/805,017	<b>Applicant(s)</b> MUELLER, OTWARD M.	
	<b>Examiner</b> Gregory J. Toatley, Jr.	<b>Art Unit</b> 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-18, 25, 26, 31 and 32 is/are rejected.
- 7) ☒ Claim(s) 19-24 and 27-30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The examiner wishes to acknowledge the cancellation of claims 1 – 15 and the filing of new claims 16 – 32.

#### ***Information Disclosure Statement***

2. The examiner acknowledges the applicant's intention to provide copies of the references listed in the IDS filed March 13, 2001. The copies had not been received at the time of this communication.

#### ***Claim Objections***

3. Claims 17, 18 and 25 objected to because of the following informalities: the applicant has spelled "bus", short for "bus bar", as "buss" which means to kiss. The examiner assumes that this is a typographical error and has examined the claims as if "bus" has been used. Appropriate correction is required.

#### ***Art Rejection Rationale***

At the outset, the examiner notes that claims are to be given their broadest reasonable interpretation during prosecution. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); In re Prater, 415 F.2d 1393, 1404, 162 USPQ 541, 550 (CCPA 1969); In re Yamamoto, 740 F.2d 1569, 222 USPQ 934 (Fed. Cir. 1984); Burlington Indus. V. Quigg, 822 F.2d 1581, 3 USPQ2d 1436 (Fed. Cir. 1987); In re Morris, 43 USPQ2d 1753, 1756 (Fed. Cir. 1997). In responding to this Office action, applicants are reminded of the requirements of 37 CFR §§ 1.111 and 1.119 that applicants specifically point out the specific distinctions believed to render the claims patentable over the references in presenting responsive arguments. See

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M.P.E.P. § 714.02. The support for any amendments made should also be specifically pointed out. See M.P.E.P. § 2163.06.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 15 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by the reference of Russo (US 6097181 A). The reference of Russo discloses the limitations of the claims as follows:

15. A system for powering an electric motor (**see at least figs 3 and 4; and 1:65 – 2:1**), comprising: an electronic drive unit (**elements 34, 38, and 40**) having a power input (**12 and 14**) and a power output for connection to an electric motor (**see connection to element 44**), said drive unit including circuits having semiconductor components with performance characteristics that are enhanced at temperatures below ambient, said power output of said drive unit being compatible with performance requirements of said electric motor; an electrical power generator system (**enclosed in 94**) electrically connected to and supplying power to said electronic drive circuit power input; and a refrigeration unit (**92**) thermally connected to said drive unit to cool said circuits with semiconductor components below ambient temperature and to enhance performance (**see 7:33-46**).

26. (new) A system as in Claim 15, wherein said electronic drive unit includes semiconductor switches, capacitors, superconducting inductor coils, said semiconductor switches including CRYO-MOSFETS, cryo-IGBTs, cryo-IGCTs, and cryo-MTOs (**see 8:4-16**), said refrigeration unit providing cooling at cryogenic temperatures.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 16, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference of Russo as applied to claim 15 above, and further in view of the reference of

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Gamble et al. (US 6489701 B1). While the reference of Russo teaches of the cryogenically cooled drive unit being used with a motor, it is silent regarding the specific type of motor to be used. The reference of Gamble et al. discloses an electric motor with controllable output and performance requirements (see 5:13-29) where it is thermally connected to a refrigeration unit (cryocooler, 14) to enhance its performance. It would have been obvious to one having ordinary skill in the art to provide the system of Russo with the teaching of cyrocooled motor of Gamble in order to increase the efficiency of the vehicle by reducing the size of the motor and optimizing its power output through its superconductive characteristics. Regarding the use of the motor with wheels as is claimed in claims 31 and 32, this is suggested by the fact that the system of Russo is incorporated in a vehicle (the given example is a train). For the additional drive unit, motor and, inherently, wheel, see figs 6 and 7. It would have been obvious to one having ordinary skill in the art to use the motor of Gamble with a wheeled vehicle for the same rationale as stated above.

8. Claims 17, 18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references of Russo and Gamble et al. as applied to claim 16 above, and further in view of the reference of Briley et al. (US 4992623 A). The reference of Briley et al. teaches of a cryogenically cooled bus (bus bar) using superconducting materials as claimed (see at least the abstract) connecting subsystems of a device in order to increase the efficiency of the electricity exchange between them in that a separate cooling system is not required for the bus. It would have been obvious to one having ordinary skill in the art to incorporate the cryocooled bus bar teaching of the reference Briley et al. into the Gamble modified system of Russo in order to optimize the electricity exchange between the components and to facilitate the exchange of the coolant between the components simultaneously.

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***Allowable Subject Matter***

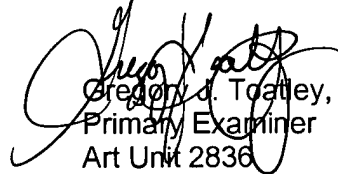
9. Claims 19 – 24, 27 – 30 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: Prior art of record does not teach or suggest the use of a fuel cell in combination with the elements as claimed in claim 19.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory J. Toatley, Jr. whose telephone number is (571) 272-2059. The examiner can normally be reached on Mon. - Fri. 7:00 a.m. to 3 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 ext. 36. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
Gregory J. Toatley, Jr.  
Primary Examiner  
Art Unit 2836

GJT Jr.